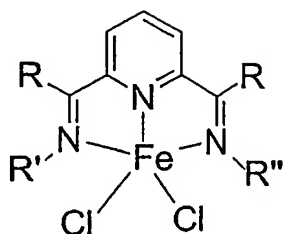


**CLAIMS.**

- 5 1. A method for preparing a catalyst component suitable for the preparation of bimodal polymers that comprises the steps of:
- a) providing hollow beads of polyethylene of controlled morphology and size;
  - b) drying the hollow beads under vacuum;
  - 10 c) impregnating the dried hollow beads with a concentrated solution of the desired catalyst component under vacuum;
  - d) returning the impregnated hollow beads slowly to atmospheric pressure;
  - e) draining excess liquid;
  - 15 f) drying under inert gas at atmospheric pressure.
2. The method of claim 1 wherein the impregnation time is of from???
3. The method of claim 1 wherein the impregnation is carried out at  
20 atmospheric pressure and wherein the impregnation time is of about 30 minutes.
4. The method of claim 1 wherein after step e) the impregnated and dried beads are washed for a period of time of from 30 to 60 seconds and then  
25 rapidly drained and dried.
5. The method of any one of claims 1 to 4 wherein the hollow beads of polyethylene are prepared by the steps of:
- i) providing a supported catalyst component wherein the support is a  
30 porous functionalised bead of polystyrene and wherein the catalyst

component is covalently bound to the support and is an iron based complex of general formula (I)



(I)

wherein the R's are the same and are an alkyl having from 1 to 20 carbon atoms and wherein R' and R'' are the same or different and are a substituted or unsubstituted alkyl having from 1 to 20 carbon atoms, or a substituted or unsubstituted aryl having substituents from 1 to 20 carbon atoms;

- ii) activating the supported catalyst with a suitable activating agent;
- iii) feeding the ethylene (or other??) monomer;
- iv) maintaining under polymerization conditions;
- v) retrieving hollow beads of polyethylene of controlled morphology and size.

6. The method of claim 5 wherein R is methyl.

7. The method of claim 5 or of claim 6 wherein R' and R'' are the same and are substituted or unsubstituted phenyl.

8. The method of claim 7 wherein the substituents on the phenyls are located at positions 2 and 6 are the same and are isopropyl.

9. A catalyst component obtainable by the method of any one of claims 1 to 8.

10. A catalyst system for preparing a bimodal polymer comprising:

- 5 a) the catalyst component of claim 9;
- b) an activating agent.

11. The catalyst system of claim 10 wherein the activating agent is methylaluminoxane.

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12. A method for preparing a bimodal polymer comprising the steps of:

- a) preparing hollow beads of a first polymer in a first reaction zone;
- b) retrieving the hollow beads of polymer from the first reaction zone;
- c) preparing the catalyst system of claim 10 or claim 11 between the
- 15 two reaction zones;
- d) injecting the catalyst system of step c) and the second monomer into the second reaction zone;
- e) maintaining under polymerisation conditions;
- f) retrieving a bimodal polymer.

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13. The method of claim 12 wherein the second monomer is an  $\alpha$ -olefin having from 1 to 4 carbon atoms.

14. The method of claim 12 or claim 13 wherein the first and second reaction

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zones are loop reactors.

15. A bimodal polymer obtainable by the method of any one of claims 12 to 14.

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16. Use of the catalyst system of claim 10 or claim 11 to prepare bimodal polymers.